



Major Milestone

STS-74 marks new level in operations between U.S., Russia

The STS-74 mission marked a significant milestone in the cooperation between the U.S. and Russia and the building of an International Space Station. The STS-74 astronauts successfully attached a permanent docking port to Mir's Kristall module for easier access for future missions.

On Flight Day 3, Mission Specialist Chris Hadfield used *Atlantis*' robot arm to grapple the Russian-built module and hoist it high over the payload bay. He then maneuvered the docking module to a position only four or five inches above the capture ring of the Orbiter Docking System in the forward section of the payload bay. At that point, Commander Ken Cameron pulsed *Atlantis*' jets, essentially flying the ODS capture ring to mate it with the docking module. With the docking module installed on the ODS and its operating systems checked out, atten-

tion turned to an early morning meeting of the two spacecraft.

Docking occurred as the two spacecraft flew over the Chinese-Mongolian border. Two and a half hours later, the hatches between Mir and *Atlantis* were opened and the two crews greeted one another in the docking module.

For three days, the crews worked side by side transferring equipment, hardware, food, water and other supplies. All told, 2,132 pounds of resupply material was transferred to Mir; while 817 pounds of scientific material and hardware returned to Earth on board *Atlantis*.

Throughout the rendezvous, docking and joint operations, the crew collected photos to share. From left to right, top to bottom:

1) Onboard cameras capture the a low-angle view of the docking module just before contact with the Kristall module.

2) Before departing, *Atlantis* flew two revolutions around Mir as the astronauts on board documented the condition of the space station with their on-board cameras. With Earth's horizon providing the backdrop, astronauts get a full view of Mir from *Atlantis* soon after the two spacecraft began separation.

3) Cameron, left, floats into the Mir's core module to join Cosmonaut/Researcher Thomas Reiter.

4) The tradition in-flight crew portrait is taken in the docking module. Front row from left are, Pilot Jim Halsell, Mission Specialist Bill McArthur, and Cameron. Back row from left are, Mission Specialists Chris Hadfield and Jerry Ross.

5) Mir 20 crew members from left are Gidzenko, Reiter and Flight Engineer Sergei Avdeuev. The Mir 20 crew have been

onboard Mir since Sept. 5.

6) Cameras capture a close-up view of the docking module attached to the Orbiter Docking System.

7) Cameron checks procedures on *Atlantis*' flight deck during rendezvous operations.

8) Hadfield makes his way from one module to another among supplies and docking hardware onboard Mir.

9) Ross works out on the bicycle ergometer on *Atlantis*' mid deck.

10) STS-74 Commander Ken Cameron, right, and Mir 20 Commander Yuri Gidzenko shake hands marking the second historical docking between the two countries.

11) Halsell joins Cameron on the flight deck during rendezvous operations.

12) McArthur checks computer readouts on *Atlantis*' flight deck during the mission. □

